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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,265	12/14/2001	GopalaKrishna Reddy Kakivaya	MSFT-0736/183220.01	6084

41505 7590 10/30/2008
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EXAMINER

BASEHOAR, ADAM L

ART UNIT	PAPER NUMBER
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2178

MAIL DATE	DELIVERY MODE
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10/30/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/017,265

Applicant(s)

KAKIVAYA ET AL.

Examiner

ADAM L. BASEHOAR

Art Unit

2178

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15-27 and 29-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-27 and 29-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is responsive to the Amendment filed 07/30/08.
2. The rejections of claims 1, 16, and 30 under 35 U.S.C. 112, first paragraph, have been withdrawn as necessitated by Amendment.
3. Claims 13, 16-27, 29 and 30 remain rejected under 35 U.S.C. 101.
4. Claims 1-13, 15-27 and 29-41 remain pending in the case. Claims 1, 16, and 30 are independent claims.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 13, 16-27, 29 and 30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 13, 16-27, 29, and 30 recite a computer readable medium which could merely be a transmission medium to include signals such as carrier waves (Paragraph 49; "carrier wave"). Such a transmission medium does not fall within a statutory category of invention as it would not be structurally and functionally interconnected to the software instructions in such a manner to enable the software to act as a computer component and realize any functionality. Thus the claims must be amended to include an appropriate computer readable medium (e.g. a computer readable storage medium).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-10, 12-13, 15-25, 27, 29-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over W3C, “Web Services Description Language (WSDL) 1.1”, 03/15/01, pp. 1-51, <http://www.w3.org/TR/wsdl> (Hereafter W3C) in view of Upton (US-7,152,204 12/19/06).

-In regard to substantially similar independent claims 1, 16, 30 and dependent claims 13, 15, and 29, W3C teaches a method, computer readable medium, and device for providing interface description for a service of a device in a computing system, comprising:
creating a one to one mapping of each abstract type in the device or object to an XML schema type (Page 4: “Types- a container for data type definitions using some type of system (such as XSD)” & “WSDL recognizes the need for rich type systems for describing message formats, and supports the XML schema specification”; Page 5: e.g. Example 1) said mapping comprising:

a one to one mapping/association between the abstract type to said XML schema type and
a one to one mapping between said XML schema type to said abstract type (Page 13: “encoding abstract types using XSD”),

whereby there is a one to one relationship between the service of the device or object to an XML document said one to one relationship being characterized in a way that the service of

the device or object was validated in accordance with the XML schema (Pages 13-14: "resulting XSD schema validates the particular wire format");

describing the one to one mapping with an extensible markup language (XML)-based Type Description Language having a grammar for representing behavior aspects of said abstract type and said XML schema type (Pages 3-4: "defining an XML grammar for describing network services...automating the details involved in application communication...WSDL allows using other type definition languages via extensibility").

W3C does not specifically teach wherein said service was an instance of the abstract type if and only if the XML document is valid in accordance with the XML schema. Upton teaches wherein an object was an instance of the abstract type if and only if the XML document is valid in accordance with the XML schema (column 15, lines 36-65: "isValid()...refers to the document instance to be validated...return...'true' if the document is valid with respect to the schema"; column 16, lines 1-20). It would have been obvious to one of ordinary skill in the art at the time of the invention for the described service of W3C to have been valid if and only if the XML document representing said service was validated by said XML schema as shown in Upton, because Upton taught that schemas and isValid() methods were well known in the art to validate instances of XML documents such that said documents could be checked for errors, whereby said errors could then corrected (column 15, lines 36-65: "isValid()...refers to the document instance to be validated...return...'true' if the document is valid with respect to the schema...return 'false' and the errorList can be populated"; column 16, lines 1-20).

-In regard to dependent claims 2, 17, and 31, W3C teaches wherein the XML based Type Description Language (TDL)(Page 4: “Types”; Pages 13-14: “2.2 Types”) accommodates classes that have data and behavior aspects (Page 14: “type. Refers to an XSD simpleType or complexType”; (Page 11: “<complexType>....</complexType>”: i.e. the complex type class defines a behavior).

-In regard to dependent claims 3, 18, and 32, W3C teaches creating a one to one mapping from a programming construct (Page 5: Example 1: “<types>.....</types>”) to an XML schema for describing the programming construct (Page 4: “WSDL recognizes the need for rich type systems for describing message formats, and supports the XML schema specification”; Page 9: “types, which provides data type definitions used to describe the messages exchanged”).

-In regard to dependent claims 4, 19, and 33, W3C teaches wherein the programming construct is one of pointer, class, array, subtype, enumeration, service reference, or bit field (Pages 13-14: “2.2 Types”).

-In regard to dependent claims 5, 20, and 34, W3C teaches creating a one to one mapping from a constant value of complex type to an XML schema for describing the constant value of complex type (Page 11: “<complexType>....</complexType>”) and defining a constant value global attribute in said TDL (Page 11: “xmlns=“http://www.w3.org/2000/10/XMLSchema” & “<element name = “tickerSymbol” type = “string”/>”).

-In regard to dependent claims 6, 21, and 35, W3C teaches creating a one to one mapping of actions, services, interfaces, methods, properties, and event sources from abstract type system to an XML schema type (Pages 3-4: i.e. a WSDL document defines a plurality of components to include, Types, Messages, Operations, Bindings, Ports, Services. Each of which, unless further defined by the specification, could read on one or a plurality of claimed elements in view of the rest of the disclosure of the W3C reference).

-In regard to dependent claims 8, 23, and 37, W3C teaches wherein the XML-based IDL as a wire format for message communications relating to the service between devices of the computing system (Page 12: “wire format is actually XML).

-In regard to dependent claims 9, 24, and 38, W3C teaches creating a one to one mapping from the wire format to the message communications (Page 12: “wire format is actually XML).

-In regard to dependent claims 10, 25, and 39, W3C teaches wherein TDL enables a transfer of a service reference across an application boundary (Page 1: Abstract; Pages 3-4: Introduction).

-In regard to dependent claims 12, 27, and 40, W3C teaches wherein the XML-based TDL has action elements, service elements, interface elements, method elements, property

elements, and event source elements (Pages 3-4: i.e. a WSDL document defines a plurality of components to include, Types, Messages, Operations, Bindings, Ports, Services. Each of which, unless further defined by the specification, could read on one or a plurality of claimed elements in view of the rest of the disclosure of the W3C reference.

-In regard to dependent claims 7, 22, and 36, W3C does not specifically teach wherein TDL supports inheritance of programming constructs. It would have been obvious to one of ordinary skill in the art at the time of the invention for the TDL of W3C to have supported inheritance of programming constructs, because W3C taught a TDL utilizing XML Schema, which was notoriously well known in the art at the time of the invention to provide inheritance to the typed programming constructs.

9. Claims 11, 26, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over W3C, "Web Services Description Language (WSDL) 1.1", 03/15/01, pp. 1-51, <http://www.w3.org/TR/wsdl> (Hereafter W3C) in view of Upton (US-7,152,204 12/19/06) in further view of Jeff Schneider, "Convergence of Peer and Web Services", 07/20/01, pp. 1-7, <http://www.openp2p.com/pub/a/p2p/2001/07/20/convergence.html> (Hereafter Schneider).

-In regard to dependent claims 11, 26, and 41, W3C teaches wherein the computing system was a web services distributed computing environment (Page 1: Abstract; Pages 3-4: Introduction"). W3C does not specifically teach wherein the computing environment was peer to peer. Schneider teaches the eventual convergence of web services computing environment and a peer to peer environment (Page 1: "it seems reasonable to predict the convergence of these

paths”). It would have been obvious to one of ordinary skill in the art at the time of the invention for the web services of W3C to have implemented some of a peer to peer distributed computing environment, because Schneider teaches such a implementation would result in increased efficiency and reduced handling costs (Page 6: “increased efficiency and reduced handling costs”)

Response to Arguments

10. Applicant's arguments with respect to claims 1, 16, and 30 have been considered but are moot in view of the new ground(s) of rejection.

-In regard to claims 13, 16-27, 29, and 30, Applicant argues that a tangible computer readable medium overcomes the rejection under 35 U.S.C. 101. The Examiner respectfully disagrees. The specification is absent on what specifically comprises a tangible computer readable medium. The specification is clear that a computer readable medium could be either a computer readable storage medium or a communications medium. As stated above and as defined in the specification, a computer readable storage medium would be statutory while a medium that still included said communications medium would not be statutory. Appropriate correction is required.

-In regard to claims 1, 16, and 30, Applicant argues that the W3C reference does not teach or suggest creating a one to one mapping of each abstract type in the device or object to an XML schema type. The Examiner respectfully disagrees. W3C 1.1 clearly teaches wherein each type element defining a data type definition in the WSDL document was mapped to an XML Schema element, referenced from an associated XML Schema in the WSDL document, and used

to define the types in a message (Page 13: "encoding abstract types using XSD"). Please note the example WSDL document on page 5 of the W3C reference wherein an XML schema was incorporated to define data type definitions. Therefore each type definition in the WSDL document was mapped to a corresponding element in the XML Schema that was used to define and validate it. W3C further teaches that because it was unreasonable to expect a single type system grammar to be able to describe all abstract types, the WSDL allows type systems to be added via extensibility elements (Page 14). In this way each abstract type of the WSDL document could be mapped to a specific XML type system grammar for defining said abstract type.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam L. Basehoar whose telephone number is (571)-272-4121. The examiner can normally be reached on M-F: 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Adam L Basehoar/
Primary Examiner, Art Unit 2178